



Biology Toolkit: Indicator 3.1.3

Student Handout: Biology: Indicator 3.1.3

Goal 3.0 Concepts Of Biology

Expectation 3.1 The student will be able to explain the correlation between the structure and function of biologically important molecules and their relationship to cell processes.

Indicator 3.1.3 The student will be able to compare the transfer and use of matter and energy in photosynthetic and non-photosynthetic organisms.

Assessment Limits:

water cycle (movement of water between living systems and the environment)

carbon cycle (movement of carbon between living systems and the environment, cyclic relationship between photosynthesis and respiration)

nitrogen cycle (roles of bacteria; human impact)

photosynthesis (energy conversion: light, chemical; basic molecules involved)

cellular respiration (distinctions between aerobic and anaerobic, energy released, use of oxygen; basic molecules involved in aerobic)

chemosynthesis (from inorganic compounds)

ATP (energy carrier molecule)

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Biology Indicator 3.1.3

Use the information below to answer the following item.

The water quality of the Chesapeake Bay is measured by the Chesapeake Bay Water Quality Monitoring Program. Scientists measure the salinity, temperature, pH, and oxygen levels to help determine the health of the Bay. Healthy water also contains appropriate amounts of nutrients. Monitoring water quality helps communities make decisions about the Bay.

Measuring oxygen levels of the Bay provides scientists with information about which process?

- A. mitosis
- B. meiosis
- C. chemosynthesis
- D. photosynthesis

Correct Answer

D. photosynthesis

Item

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